UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,428	09/18/2006	Niklas Lundin	P17799-US1	6498

27045 7590 02/03/2009

ERICSSON INC.
6300 LEGACY DRIVE
M/S EVR 1-C-11
PLANO, TX 75024

EXAMINER	
WANG-HURST, KATHY W	

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
02/03/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/596,428	LUNDIN, NIKLAS	
	Examiner	Art Unit	
	KATHY WANG-HURST	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 18-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 18-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's amendment filed on 12/15/2008 has been entered. Claims 1, 2, 16, 19, 21, 25, 30 and 31 have been amended. Claims 1-16 and 18-31 are still pending in this application.

Response to Arguments

Applicant's arguments filed have been fully considered but they are not persuasive. The applicants argued features wherein a communications system having multiple MSCs/core nodes grouped in a pool, multiple BSCs/radio access control nodes supporting the core nodes, and mobile stations moving between different BSCs some of which support pooling of MSCs and some of which do not support pooling of MSCs and mobile station being able to remain connected to the same MSC, thus reducing signaling, read upon Ernam in view of Guturu as follows.

The concept of MSC-pooling and taking advantage of MSC-pooling concept are disclosed in Ernam. Col. 4 lines 1-11 and col. 8 lines 32-33, multiple MSCs are pooled together and the mobile station is connected to the same pool thus eliminating inter-VLR location updates. Ernam does not explicitly disclose one network supports pooling and another network does not support pooling and the supporting network performs pooling functions. However Ernam's deficiency is compensated by Guturu. Guturu teaches when one network does not support a function and the other network does, the

supporting network performs the function, thus preventing failures of the wireless service.

Concerning the applicants arguments regarding combination of references, both of the references are from the same field, i.e. communication systems and concern analogues topics. Therefore, the examiner contends that reference would be combinable to one skilled in the art.

Therefore, the argued limitations read upon the cited references or are written broad such that they read upon the cited references, as follows.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 12, 14, 16, 18-20, 23, 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ernam (US 6097951) in view of Guturu (US 2004/0008643).

Regarding claim 1, Ernam discloses a communications system comprising a number of core networks with a plurality of core network functional server nodes (core nodes) arranged in a pool (Fig. 3 item 34, 36 and 38; col. 3 line63-col. 4 line11) and a number of radio access networks (col. 2 lines 31-32 and col. 3 lines 57-62), each with a number of radio access network control nodes that support pooling of core nodes (Fig. 3 item 32 and col. 8 line 33-51, inter-VLR location updates are unnecessary); Ernam

discloses mobile station moving between one node that supports the pooling and another node that does not support the pooling (col. 8 line 33-51); Ernam discloses means are provided for enabling the mobile station to remain connected to the same node (col. 8 line 33-51). Ernam also discloses means providing a temporary mobile station identity (TMSI), including a unique identity of the first core node within the core node pool (col. 7 line 49-col. 8 line 31 and Fig. 7, item 44, a pseudo VLR providing a unique identification for each mobile and each mobile's corresponding MSC in the pool).

Ernam fails to disclose the mechanism when the mobile moving from one node that supports pooling to another node that does not support pooling and remaining connected with the one node that does not support pooling. Guturu teaches different networks support different functions as that if the call capability (2G voice) does not support the radio configuration for a call (3G voice), the carrier is downgraded and the call is processed with the constraints ([0084]), thus prevents call failures.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Ernam, to maintain the service provision when the older system does not support certain features that are supported in the newer system, as taught by Guturu, thus allowing an efficient and efficacious way of distributing wireless traffic equitably without compromising robustness against call failures ([0006]).

Regarding claim 16, Ernam discloses a core network functional server node in a communication system forming part of a pool of core nodes for serving a radio access network (RAN) to which a mobile station may connect over a RAN control node the core

node comprising: means for generating a temporary mobile station identity (col. 8 line 15,TMSI); means for enabling the mobile station to remain connected to the core node during movement of the mobile station said means providing a temporary mobile station identity (temporary MS id)((P)-TMSI), including a unique identity of the core node within the pool of core nodes(col. 7 line 49-col. 8 line 31 and Fig. 7, item 44, a pseudo VLR providing a unique identification for each mobile and each mobile's corresponding MSC in the pool), wherein the generating and allocating means enables the mobile station (MS) to stay connected (col. 8 line 32-51).

Ernam fails to disclose the mechanism when the mobile moving from one node that supports pooling to another node that does not support pooling and remaining connected with the one node that does not support pooling. Guturu teaches a carrier selection process in which if the call capability (2G voice) does not support the radio configuration for a call (3G voice), the carrier is downgraded and the call is processed with the constraints ([0084]) and thus prevents call failures.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Ernam, to maintain the service provision when the older system does not support certain features that are supported in the newer system, as taught by Guturu, thus allowing an efficient and efficacious way of distributing wireless traffic equitably without compromising robustness against call failures ([0006]).

Regarding claim 25, Ernam discloses a method for handling connection of a mobile station comprising a number of core networks associated with a plurality of core

network functional server nodes (core nodes) and a number of radio access networks (RAN), each RAN having with a number of radio access network control nodes, wherein some of the plurality of core nodes are arranged in a pool for controlling some of the RAN control nodes: the method comprising the steps of: a first core node generating a temporary mobile station identity for enabling the mobile station to remain connected to said first core node, said means providing a temporary mobile station identity (temporary MS id)((P)-TMSI), including a unique identity of the first core node within the core node pool(col. 7 line 49-col. 8 line 31 and Fig. 7, item 44, a pseudo VLR providing a unique identification for each mobile and each mobile's corresponding MSC).
allocating the temporary mobile station identity and a pool identity to the mobile station upon connecting to a first RAN control node (col. 8 line 32-51, DMSC controls pooling of certain MSCs and therefore each DMSC is uniquely identified);
the mobile station moving from a first routing area controlled by a first RAN control node that does not support pooling of core nodes to a second routing area that is controlled by a second RAN control node that does support pooling of core nodes the mobile station still connected to the first RAN control node, the first RAN control node served by the first core node forming part of the pool of core nodes(col. 3 line 63-col. 4 line 11);
keeping the mobile station connected (col. 8 line 32-51).

Ernam fails to disclose the mechanism when the mobile moving from one node that supports pooling to another node that does not support pooling and remaining connected with the one node that does not support pooling. Guturu teaches a carrier selection process in which if the call capability (2G voice) does not support the radio

configuration for a call (3G voice), the carrier is downgraded and the call is processed with the constraints ([0084]) and thus prevents call failures.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Ernam, to maintain the service provision when the older system does not support certain features that are supported in the newer system, as taught by Guturu, thus allowing an efficient and efficacious way of distributing wireless traffic equitably without compromising robustness against call failures ([0006]).

Regarding claim 2, Ernam discloses the communication system according to claim 1, wherein said means for enabling the mobile station to remain connected, further comprises: means for generating and allocating said temporary mobile station identity and said first core node identity, wherein said first core node identity is unique to the core node pool (col. 7 line 49-col. 8 line 31 and Fig. 7, item 44, a pseudo VLR providing a unique identification for each mobile and each mobile's corresponding MSC in the pool), said temporary mobile station identity including a pool identification (NRI) for uniquely identifying the pool to which the core node belongs (col. 8 line 32-51, DMSC controls pooling of certain MSCs and therefore each DMSC is uniquely identified), said NRI being included in a modified mobile station routing/location area update message (col. 8 line 32-51, DMSC updates), and when the mobile station moves from the one control area to anther, location update is performed (col. 8 lines 32-51).

Ernam fails to disclose the mechanism when the mobile moving from one node that supports pooling to another node that does not support pooling remains connected

with the one node that does not support pooling. Guturu teaches a carrier selection process in which if the call capability (2G voice) does not support the radio configuration for a call (3G voice), the carrier is downgraded and the call is processed with the constraints ([0084]) and thus prevents call failures.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Ernam, to maintain the service provision when the older system does not support certain features that are supported in the newer system, as taught by Guturu, thus allowing an efficient and efficacious way of distributing wireless traffic equitably without compromising robustness against call failures ([0006]).

Regarding claim 3, Ernam discloses the communication system according to claim 2, wherein movement of the MS provides an intra core node intersystem change (col. 7 line 55-col. 8 line 11).

Regarding claim 4, Ernam discloses the communication system according to claim 1 (Abstract), but fails to disclose the communication system wherein at least one of the core nodes of the pool comprises a dual or multimode core node that supports access over more than one radio access network, said radio access networks implementing different radio access technologies. Guturu teaches a communication system handling multi-mode traffic ([0044]). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Ernam, to handle different types of data traffic, as taught by Guturu, thus extending the applications to accommodate next generation wireless system ([0006]).

Regarding claim 5, Ernam discloses the communication system according to claim 1. wherein said first and second control nodes belong to the same radio access network, a first part of the radio access network not supporting pooling and containing said first control node and a second part of the network which supporting pooling and containing said second control node (col. 8 line 32-51).

Regarding claim 12, Ernam discloses the system according to claim 1 wherein the first core node of a pool allocates a temporary mobile station identity (col. 8 line 15,TMSI), with pool identification to a connecting/attaching mobile station of whether or not the mobile station connects to a control node supporting pooling of core nodes or to a control node not supporting pooling of core nodes(col. 8 line 32-51, DMSC controls pooling of certain MSCs and therefore each DMSC is uniquely identified).

Regarding claim 14, Ernam discloses The system according to claim 13, wherein said pool identification is included in mobile station (MS) Routing/Location Area Update messages provided to the second control node (col. 8 line 32-51, DMSC updates).

Regarding claim 18, Ernam discloses the core node according to claim 16, wherein the temporary mobile station identity is generated and allocated upon entering the area served by any core node forming part of the pool whether or not the mobile station is connected to a control node supporting pooling of core nodes (col. 8 line 15,TMSI).

Regarding claim 19, Ernam discloses the core node according to claim 18, wherein that said temporary mobile station identity is included in a routing/location area

update message relayed from the second control node to the first core node keeping the mobile station connected to the first core node (col. 8 lines12-31).

Regarding claim 20, Ernam discloses the core node according to claim 19, wherein a mobile station transition from the first control node to the second control node comprises an intra core-intersystem change(col. 7 line 55-col. 8 line 11).

Regarding claim 23, Ernam discloses the core node according to claim 16 any comprising a Mobile Switching Center (Abstract).

Regarding claim 26, Ernam discloses the method according to claim 25, further comprising, characterized in that it comprises the steps of:

- allocating the temporary mobile station identity, including the

a pool identification, to the mobile station upon connecting to the first RAN control node first a radio network access control node, served by a core node of the pool, irrespectively of whether or not the first RAN control node supports pooling of core (col. 8 line 32-51, DMSC updates);

- including the pool identification in the message relating to change/updating of routing/location area when the mobile station moves to a routing/location area covered by the second RAN control node supporting pooling of core nodes (col. 8 line 32-51, DMSC controls pooling of certain MSCs and therefore each DMSC is uniquely identified);

- relaying the routing/location area change/updating message to the first core node from the second radio access network control node (col. 8 line 32-51).

Regarding claim 27, Ernam discloses The method according to claim 26, wherein said first and second RAN control nodes belong to the same radio access network and implement the same radio access technology (col. 7 line 55-col. 8 line 11).

3. Claims 6-11, 13, 15, 21-22, 24, 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ernam in view of Guturu, further in view of Maguire (US 2003/0028644).

Regarding claim 6, Ernam discloses the communication system according to claim 1 (Abstract), but fails to disclose CDMA.

Guturu discloses the communication system using CDMA but fails to disclose GSM. Maguire discloses a pooled network with MSCs and SGSNs.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Ernam and Guturu, to handle different types of networks, as disclosed in Maguire, thus extending the applications to accommodate new generation of wireless system.

Regarding claim 7, Ernam discloses the communication system according to claim 1, wherein at least some core nodes comprise Mobile Switching Centers (MSC) for circuit switched communication (col. 3 line 63-col. 4 line 11) but fails to disclose at least some of the control nodes are Base Station Controllers (BSCs).

Guturu discloses the communication system using CDMA but fails to disclose GSM. Maguire discloses a pooled network with MSCs and SGSNs.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Ernam and Guturu, to handle different types of networks, as disclosed in Maguire, thus extending the applications to accommodate new generation of wireless system.

Regarding claims 8, 10 and 11, the combination of Ernam, Guturu and Maguire discloses some control nodes support pooling and some control nodes do not support pooling, and the ones that support pooling use GSM and the ones that do not support polling use UMTS.

Regarding claim 13, the combination of Ernam, Guturu and Maguire discloses the temporary mobile station comprises a (P) –TMSI modified with a pool identification comprising the NRI.

Regarding claim 15, the combination of Ernam, Guturu and Maguire discloses the first core node uses theGb-flex/lu-flex mechanism for allocating a temporary mobile station identity comprising pool unique identity whether the radio access networks are not lu- flex/Gb-fiex enabled.

Regarding claim 24, the combination of Ernam, Guturu and Maguire discloses the core node uses the Gb-flex mechanism or the lu-flex mechanism for allocating a modified temporary mobile identity including a pool identification to a mobile station and the transition from the first control node comprises an intra SGSN intersystem change.

Regarding claims 9, 21-22, 28 -31, the combination of Ernam, Guturu and Maguire discloses the core node being a multimode access node and supporting at

least two radio access technologies: an UMTS and a GSM and their core nodes being SGSNs and the core nodes comprising a mobile switching center (MSC).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KATHY WANG-HURST whose telephone number is (571) 270-5371. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, alternate Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KATHY WANG-HURST/
Examiner, Art Unit 2617

/NICK CORSARO/
Supervisory Patent Examiner, Art Unit 2617